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PRELIMINARY STUDY OF PROFESSIONAL CONTRIBUTIONS AND PRODUCTIVITY OF WOMEN WITH DOCTORATES.

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THE RELATIVE PRODUCTIVITY OF WOMEN PH.D'S WAS STUDIED BY COMPARING THE TEACHING AND RESEARCH CONTRIBUTION OF RECENT PH.D'S IN FOUR CATEGORIES/ (1) MARRIED WOMEN WITH PH.D'S WHOSE HUSBANDS ARE EMPLOYED AT UNIVERSITIES WITH NEPOTISM RULES, (2) MARRIED WOMEN WITH PH.D'S WHOSE HUSBANDS ARE NOT ON UNIVERSITY FACULTIES OR ARE EMPLOYED AT UNIVERSITIES WITHOUT NEPOTISM RULES, (3) UNMARRIED WOMEN WITH PH.D'S, AND (4) MEN WITH PH.D'S. THE FEMALE SAMPLE STUDIED WAS OBTAINED FROM LISTINGS AVAILABLE IN THE INDEX OF AMERICAN DOCTORAL DISSERTATIONS FOR THE PAST SIX YEARS IN THE PHYSICAL AND BIOLOGICAL SCIENCES, SOCIAL SCIENCES, HUMANITIES, AND EDUCATION. THE MALE SAMPLE WAS OBTAINED FROM THE SAME SOURCE BY SELECTING EVERY NTH NAME. THE MALE SAMPLE WAS ONE-THIRD THAT OF THE FEMALE SAMPLE BUT THE SAME PROPORTION WAS MAINTAINED IN MAJOR FIELDS. ABOUT 60 PERCENT OF THE MEN AND WOMEN RESPONDED TO A QUESTIONNAIRE. APPROXIMATELY 15 PERCENT OF THE MARRIED WOMEN BELIEVE THAT THEIR CAREERS HAVE BEEN HURT BY ANTI-NEPOTISM REGULATIONS. TEACHING DUTIES OCCUPY THE TIME OF MOST RESPONDENTS. UNMARRIED WOMEN ARE AS LIKELY TO HOLD ASSOCIATE OR FULL PROFESSORSHIPS AS MEN. MEN EARNED MORE THAN WOMEN, AND UNMARRIED WOMEN EARNED MORE THAN MARRIED WOMEN. THE MEAN NUMBER OF ARTICLES PUBLISHED BY WOMEN WHO CLAIMED TO BE AFFECTED BY ANTI-NEPOTISM RULES IS HIGHER THAN THE MEAN FOR OTHER WOMEN AND FOR MEN. (SK)

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PRELIMINARY STUDY OF PROFESSIONAL CONTRIBUTIONS AND PRODUCTIVITY OF WOMEN WITH DOCTORATES

Cooperative Research Project No. 5-8189

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4. Problem on which the research was focused.

Approximately 12 percent of the total number of Ph.D.'s in this country are women.[1] Society has made a huge investment in the education of these women. Our research was designed to find out how much of a return society receives from its investment and how much of the investment is lost, both to society and to the women who spent the time and effort obtaining the Ph.D. because of discriminatory personnel practices, such as enforcement of nepotism rules, reluctance to extend tenure or to assure permanent status, and employment at a lower professional rank and salary than is commensurate with training and competency.

Losses to education and to society as a result of discriminatory employment policies can and do manifest themselves by (1) a shortage of trained teachers, (2) a lack of qualified researchers and (3) a decrease in the motivation of women to obtain the Ph.D. In this era of increasing emphasis on the importance and necessity of a college education, and of trained persons with specialized skills, the failure of society to use all of its available resources to an optimal degree, may be a greater loss than is presently realized.

5. Objectives.

The main purpose of our study is (a) to compare the productivity of the woman Ph. D. against that of the male Ph.D. holding constant major field and year of degree and (b) to compare productivity among married and unmarried women Ph.D.'s. Behind this interest is a desire to answer empirically the following two-part question: Compared to men, how much of a return does society receive from its investment in the higher education of women, as much as it receives from men, three-quarters as much, half as much, etc.; and (b) compared to unmarried women, how much of a return does society receive from its

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[1] Walter C. Eells, Degrees in Higher Education, 1963, Washington: The Center for Applied Research in Education, p. 42.

investment in the higher education of women who marry and have children. We included questions concerning nepotism regulations because we felt that such regulations might be an important factor in explaining the differences in productivity.

6. Related Research

Historically and literally nepotism means the bestowal of patronage by reason of relationship rather than merit. Anti-nepotism regulations were passed at academic institutions largely as a response to the institutions' conflicts with state legislatures as to which body should have final control over faculty appointments. From the point of view of the university, the purpose of an anti-nepotism rule was to protect itself from being used as a dumping ground for patronage appointees and to bar officials from firing professors for their views on controversial issues.

The passage of anti-nepotism rules at colleges and universities paralleled the passage of civil service reforms and the introduction of the "merit system" in government agencies and other institutions. It represented one aspect of a more general reform movement which had as its primary objective granting to government departments and agencies, and other public institutions autonomy over personnel and freedom to hire on the basis of merit.

In recent years, however, the anti-nepotism regulations passed by colleges and universitites to protect themselves from political interference have had unanticipated and perhaps unintended consequences. They have been applied, primarily, to prevent the hiring of married women whose distinguishing characteristic is that they are the wives of men already on the faculty. Applied in this context, the rules have little connection with their original purpose: the prevention of incompetent or unqualified persons from gaining positions as a result of political influence.

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2 Malcolm Moos and Francis E. Rourke. The Campus and the State. Baltimore: The John Hopkins Press, 1959, pp. 148-149.

Three recent studies have investigated the frequency and extensiveness of anti-nepotism rules as barriers to college or university employment among married women whose husbands are employed at academic institutions. The latest and most comprehensive study was conducted by the American Association of University Women in 1959-1960.[3] The AAUW sampled three hundred sixty-three public and private institutions. Each of the institutions was asked to describe its personnel policies and specifically to tell whether it had anti-nepotism regulations and if so, were they enforced, extent of enforcement, etc. Two hundred eighty five, or 70 per cent, of the institutions that were contacted responded. Among those which responded, 26.3 per cent replied that they have anti-nepotism regulations, 18.2 per cent said that they have no written restrictive regulations but do have restrictive practices relevant to some situations, and 55.4 per cent indicated that they have no anti-nepotism regulations of practices.[4]

When schools were ordered by size, they found that smaller enrollment schools had more liberal hiring policies than larger enrollment schools; and that private universities were more likely than public ones to have no restrictions on hiring. The schools that admitted restrictive practices without specific anti-nepotism regulations usually discriminated against the second family member in one or more of the following ways: (a) full faculty status, or tenure is withheld, therefore employment (of wives) has the character of "temporariness"; (b) when married women are hired, they are considered as stop-gap faculty rather than career personnel (c) on matters of policy decision two member family employees working in the same area,

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3 Eleanor F. Dolan and Margaret P. Davis, "Anti-Nepotism Rules in Colleges and Universities, Their Effect on the Faculty Employment of Women." Education Record 41:285-291. Two earlier studies were done by Dr. George H. Huff who dealt with small institutions and by the College and University Personnel Association. Unpublished study by George H. Huff reported in Dolan and Davis pp. 286-287. William E. Poore, Personnel in Colleges and Universities, Champaign, Illinois: The College and University Personnel Association, 1958.

4 Ibid. pp.

may exercise one vote; (d) fringe benefits, retirement and medical insurance plans, sabbatical leaves, etc., are denied. The authors of the study concluded that the employment and/or status of potential women faculty are affected in nearly half of our institutions of higher learning.

7. Procedure.

Our data collecting procedure consisted of the following steps.

1. From the listings available in the Index to American Doctoral Dissertations we determined the universe of women holding the Ph.D. for the past six years in four academic divisions: physical and biological sciences, social sciences, humanties, and education.

2. Once we knew the size of the female universe we selected every nth name from among the male listings. We drew a sample of male Ph.D.'s which was one third the size of the female list. We maintained the same proportions by the major academic divisions.

3. We obtained the current addresses of our potential respondents from alumni offices throughout the country. If the Alumni Office was unable to supply us with a current address, we wrote to the chairman of the department from which the respondent received his Ph.D.

4. Letters describing the purpose of the study along with the questionnaire were mailed to the men and women on our list. A follow-up letter was also sent.

Of the 5370 women who received their Ph.D.'s in the years and divisions cited above, the alumni offices and department heads were able to supply us with the current addresses of 4998 names or 93 per cent of the total. Among the men, out of a sample of 1787, we were able to obtain the current addresses of 1700 or about 95 percent of the sample. We received about a 60 percent return from both males and females.

8. Analyses of the Data and Findings.

Of the approximately 2500 women who have returned their questionnaires,

half are unmarried, 28 per cent are married but have husbands who are not employed at academic institutions, and the remaining 22 per cent are married and have husbands who are employed at academic institutions. Among those in the latter category, slightly more than one in every three claim that they are affected by anti-nepotism regulations. Thus, about 15 per cent of the married women claim that anti-nepotism rules are interferring with their careers.

In the remaining sections of this report we shall report two types of findings concerning the impact of anti-nepotism rules on married women with Ph. D.'s. First, we shall describe how anti-nepotism rules affect the respondents' careers by quoting from individual cases and then by summarizing the major characteristics of those cases. Secondly, we shall compare employment situations: incomes, ranks, publications, etc., among women who claim they are affected by anti-nepotism rules and (a) other married women who have husbands employed in colleges and universities but do not report they are affected by anti-nepotism rules, (b) other married women who have husbands not employed at academic institutions, (c) unmarried women and (d) men.

Among those women who claim they are affected by anti-nepotism rules, 84 per cent report they are presently employed and of those employed, 60 per cent are employed full time. This figure, as we shall see later is not significantly lower than the figure reported by other married women. Thus, we note immediately that women who claim they are affected by anti-nepotism rules are just as likely to be employed as other married women. Anti-nepotism rules, then are not an effective barrier to professional entry. Among the women who claim they are affected by nepotism and who are employed, about 40 per cent are employed in the same department as their husbands. Eighty per cent of the time, the husbands hold a higher rank, earn more money, and in 60 per cent of the cases were hired first. These factors apply when husbands and wives received their degree in the same year.

The ways in which anti-nepotism regulations affect the respondents' careers have been summarized by the following situations: The situations are listed according to the frequency with which they were reported.

1. Women claim they can work at the same university, in some instances in the same department as their husbands, but under "special" circumstances. These special circumstances involve such things as: temporary employment with no possibility of being considered for tenure; part time employment; semester by semester hiring on an emergency basis; lower salary than colleagues with comparable rank and experience; no voting privileges; must secure salary from research grants; no professorial rank; change of field or speciality.

Illustrations:

"I am the only person to my knowledge with the Ph.D. who wasn't hired as an assistant professor. I also hold one of the lowest salaries in the department. This is my 10th year of teaching and I am publishing. An instructor with a doctorate always earns more than I do."

"Apparently, the rule at _____ college is if two members of the faculty are both employed by the college, nepotism does not apply. But in the summer of '61 there was a resignation and I fulfilled the vacancy for one year. When they had no one for the following year, they asked me to return for another year, but I refused because I am not interested in a job for which I am hired at the last minute. "

"The ruling at the University of _____ is that no two people from the same family shall be paid by the University. If one member receives his pay from the University, the other member or members must work without salary or be paid from outside funds. At present, I receive my salary from outside funds. At present, I receive my salary from grant funds. But I do not and cannot hold any professional rank or strive for tenure."

"The nepotism rule at the University of _____ was directly responsible for my shifing my focus of interest from experimental child psychology to clinical child psychology in order to acquire service skills to make me employable at institutions near the University where my husband will work. This set back my career requiring an additional post-doctoral year as a clinical trainee beyond the one already completed in experimental child psychology. Then, I had to work one additional year in a low level staff position usually open to a new clinical Ph. D.... The only other choice open to me was to apply for another NIMH Post-Doctoral Fellowship in order to continue working in my original area of interest. But I did not wish

to live from year to year on stipends about half as large as the professional salary I could get as a staff person in another setting.

2. Women claim they are excluded from work at the same university as their husbands, therefore:

a. They find employment at another college or university in the same community or area;

b. They are unemployed -- but seeking work;

c. They are unemployed -- but at the present time not particularly interested in finding a position.

Illustrations

"Our move to _____ was largely by the erroneous judgment of my husband's chairman that I could be employed. When this was ruled out by the President, I found myself another job (a better one, as it turned out) at a college within commuting distance and have been a full time faculty member ever since."

"The college at which my husband teaches has a nepotism rule which prevented my being considered for teaching (even part-time) there. Hence, I am currently commuting 25 miles at considerable expense and inconvenience to teach at another institution."

"I applied, as accounting professors were needed; hoping that they would not find anyone in the community and then hire me for a quarter or more. But the policy is never to hire anyone from the same family, unless the institution is desperate. They hired a C.P.A.

My husband has recently been appointed to a professorship in the Department of Zoology of _____ University. Unfortunately, I can not be appointed to any position in this department because of the nepotism rules. This makes it rather difficult for me to pursue my teaching career since this is the main university in _____.

3. Women claim that both their mobility and their husband's mobility

is severely limited. They cannot consider employment at certain universities

that have good departments because of anti-nepotism rules.

Illustrations

"We are affected in this sense--nepotism rules elsewhere limit our chances to make a move. My husband has had invitations to apply for positions elsewhere, but when we are told that nepotism rules were enforced, or feelings were strong against hiring wives, we did

not pursue these invitations. I received an invitation to apply at _____; but there is a nepotism rule that would prevent my husband's consideration."

"Our home is in Texas. My husband has been offered at least five college teaching jobs, including head of department. He did not take the positions because there was no job available for me because of the nepotism rule."

"We are being entertained as potential teachers in a department which needs people of each of our backgrounds, but the chairman is trying to place my husband in another department to escape nepotism rules. If no other department will cooperate, we are out of luck, a shame, as both jobs appear attractive."

4. Women claim that anti-nepotism regulations exist at the universities in which they are employed, but that they are not directly affected by them because: they had tenure before marriage; they have always been employed as a research associate and receive their salaries from research grants; they have not sought employment at the same university as their husbands because they have a satisfactory position elsewhere; they have not sought employment at the same university as their husbands because they do not feel they would qualify.

Illustrations

"At present time I am not affected by a nepotism rule. However this may only be true because my husband and I write research proposals which are supported by the U.S. government. Thus, I cost the university no money and in fact bring in sufficient funds to support three or four pre-doctoral students."

"I had tenure at the time of my marriage. I retained my tenure. However, if I had not had tenure at that time, I would not have been eligible for it."

"The general rule -- to which some exceptions have been made -- is that members of the same family cannot work in the same department. This is hardly a practical hindrance in my case, since I could never expect to get a teaching appointment at _____, their standards are too high. "

We turn now to our second set of findings concerning the effects of anti-nepotism regulations on the professional characteristics and productivity of the woman Ph.D. We reported earlier that among the women who

claim they are affected by anti-nepotism rules, 84 per cent are employed: 60 per cent full time. In Table 1, shown below, we see how these figures compare with other women Ph.D.'s and men.

Table 1. Per Cent Employed by Sex and Marital Status.

Presently Employed	Women presently affected by anti-nepotism rules (2)	Women with husbands in Academia (2)	Women with husbands not in Academia (3)	Single Women (4)	All Men (5)
Yes	84.3	84.4	86.5	98.3	99.0
Full time	59.9	58.5	68.7	95.2	99.0
Part time	24.4	25.9	17.8	3.1	-----
Not employed	15.1	15.1	12.6	1.6	.2
No answer	.6	.5	.6	.6	.8
Combined	$100.0_{(192)}$	$100.0_{(325)}$	$100.0_{(684)}$	$100.0_{(1232)}$	$100.0_{(786)}$

Women who are affected by anti-nepotism rules are just as likely to be employed as other married women (categories 1, 2, and 3) but less likely than unmarried women or men.[5] Almost all of the married women in each of the three categories who are not employed or who are working less than full time claim that they have not sought employment or that they do not wish to work any more than they are. According to these figures, anti-nepotism regulations are not effective or important bars to entry into the academic market; although as the quotes from the previous section suggest, they may restrict entry into specific positions at certain institutions.

Table 2 describes type of employment among our five categories of Ph.D.'s.[6]

Table 2. Type of Employment by Sex and Marital Status.

Type of Employment	Women presently affected by anti-nepotism rules (1)	Women with husbands in Academia (2)	Women with husbands not in Academia (3)	Single women (4)	All men (5)
Teaching	41.6 (69)	40.9 (115)	39.2 (235)	49.1 (600)	39.8 (312)
Research	24.7 (40)	26.3 (74)	17.5 (105)	10.6 (129)	11.6 (91)
Both	19.9 (33)	21.7 (61)	15.2 (91)	18.8 (299)	21.3 (167)
Other	10.2 (17)	8.5 (24)	26.0 (156)	19.2 (235)	26.3 (206)
No answer	3.6 (6)	2.5 (7)	2.2 (13)	2.3 (28)	1.0 (8)

Teaching claims the greatest proportions of respondents in all categories. Women who claim they are affected by anti-nepotism rules are no more likely to be represented

5. The proportion of married women who have children is similar among the three categories. The per cents range from 68 to 71.

6. The base figures represent those respondents who are employed (part or full time)

in the "research only" or "other" categories than are other married women with husbands at aolleges or universities. The distribution for both groups, however, shows a greater concentration in "research only" positions and a lesser concentration in "other" positions than one finds among the unmarried women or men.[7]

When we compared type of employment among those respondents who are employed full time, we found that "teaching" was still the modal category, and that the differences in the distribution among married women as opposed to unmarried women and men described in Table 2 persisted.

When we compared place of employment among all respondents, those working part and full time, we found that there were no noticeable differences in the proportion employed at academic institutions compared to government, private industry, hospitals, etc., by sex or marital status except that married women who have husbands who are not employed at academic institutions are also less likely to be employed at colleges or universities. Within the married women categories, those who claim they are affected by anti-nepotism rules are more likely to be employed at state universities than at private colleges or universities.

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7. The distributions of responses of the women with husbands not employed at academic institutions show that they fall in between the responses of persons in categories 1 and 2 and those in categories 4 and 5.

Table 3. Place of employment by Sex and Marital Status

Place of Employment	Women presently affected by anti-nepotism rules (1)	Women with husbands in academia (2)	Women with husbands not in academia (3)	Single Women (4)	All Men (5)
Private, City or Church College	11.0 (22)	19.1 (54)	17.0 (100)	19.2 (244)	18.0 (141)
State Univ.	53.1 (86)	35.9 (99)	29.3 (172)	46.1 (585)	40.0 (314)
Private Univ.	11.2 (23)	26.4 (73)	15.3 (90)	11.3 (144)	14.2 (111)
Gov't. Private Industry, Hosp., other Institutions	24.7 (31)	18.1 (50)	38.2 (225)	23.2 (295)	27.9 (217)

These findings are both at odds and consistent with the findings reported in the A.A.U.W. study[8] on the basis of which Dolan and Davis conclude that smaller enrollment schools have more liberal policies than larger enrollment schools and that private universities are more likely than public ones to have no restrictions on hiring. The following per cents, 53.1, 35.9, and 29.3 represent the proportion of married women in categories 1, 2, and 3 respectively who are employed at state universities. Married women who claim they are affected by anti-nepotism regulations represent the largest category. The figure of 53 per cent for women who claim they are affected by anti-nepotism rules is comparable to the 46 per cent for the unmarried women and 40 per cent for the men who are employed at state universities. Our data are at odds with the findings reported by Dolan and Davis in that public universities appear no less willing to hire married women whose husbands are on the faculty than private colleges or universities. They are consistent because they indicate that half (a fraction considerably higher than that found at private colleges and universities) of the women who

8 Dolan and Davis, *op. cit.*

are employed, but claim they are affected by anti-nepotism regulations, are employed at state universities.

Table 4 describes the distribution by professorial rank among those respondents who are employed full time at colleges and universities.[9]

Table 4. Professorial Ranks Among Respondents Who are Employed Full Time at Colleges and Universities.

Rank	Women presently affected by anti-nepotism rules (1)	Women with husbands in academia (2)	Women with husbands not in academia (3)	Single women (4)	All men (5)
Instructor	9.6	12.4	9.3	2.9	3.1
Lecturer	6.4	2.4	2.4	1.3	1.1
Ass't Prof.	37.7	48.4	43.9	36.5	35.1
Assoc. Prof.	20.4	11.6	21.1	30.9	40.9
Professor	4.2	8.6	8.6	20.0	15.7
Research Associate	18.1	14.7	12.6	7.2	4.0
No Answer	3.2	1.9	1.7	1.3	.9

We find three things of interest in Table 4: 1) married women (those in categories 1, 2, and 3) are more likely to be represented in the lower ranks of instructor and lecturer and less likely to be represented in the associate and full professor ranks than are unmarried women and men; 2) married women are more likely to be employed as research associates; 3) unmarried women are just as likely as men to hold assoicate and full professorships.

As we would have expected nn the basis of the results in Table 4, married women are also less likely to have tenure than unmarried women or men. There is no difference in the per cent with tenure among the latter two categories.

[9] We also compared respondents by the mean length of time they have held their current job and found no noticeable differences among our five categories.

Table 5. Per Cent of Respondents with Tenure Among those Employed Full Time at Colleges and Universities.

Tenure	Women presently affected by anti-nepotism rules (1)	Women with husbands in academia (2)	Women with husbands not in academia (3)	Single women (4)	All men (5)
Yes	25.0	24.8	34.4	48.4	48.4
No	75.0	75.2	65.5	51.6	51.6

The findings in Tables 4 and 5 suggest that married women as a social category are subjected to discriminatory employment practices as manifest by rank and permanence of position but that only some label these practices and object to them. In other words, women who claim that their careers have been hurt by anti-nepotism regulations are in reality treated no differently than other married women.

An important measure of whether or not people are treated equally is whether they are paid the same amount of money. We have shown thus far that married women who are working full time, irrespective of where their husbands are employed or whether the institution has an anti-nepotism rule, hold lower ranks and non-tenured positions. The question is: do married women who claim they are affected by nepotism receive less money than other married women; or do married women in general earn less than unmarried women or men?

Unlike the factors reported in the previous tables, we knew that different fields or academic divisions had different salary scales. We decided, therefore, to examine the distribution of women who claim they are affected by nepotism against other married women within the same academic divisions and then to compare incomes among our five categories in each division.

Table 6. Distribution of Women Affected by Nepotism, and Other Married Women by Division.

Division	Women presently affected by anti-nepotism rules (1)	Women with husbands in academia (2)	Women with husbands not in academia (3)	Total married women	Ratio: Married women affected by nepotism vs other married women
Natural and Biological Sciences	6.3	12.4	16.6	35.3%	1:6
Social Sciences	3.9	18.1	17.6	39.6%	1:10
Humanities	5.8	8. 0	16.1	29.9%	1:15
Education	2.1	3.0	16.0	21.1%	1:10.5

Women who claim they are affected by anti-nepotism rules are more likely to be found in the natural and biological sciences and in the humanities than they are in education and the social sciences.[10]

Table 7 compares mean incomes by divisions, and by sex and marital category within the two ranks for which we have large enough N's to make meaningful comparisons.

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[10] These ratios are based on married women who are employed full time. The ratio does not change significantly when married women who are employed part time are included.

Table 7. Mean salary by Division and Rank Among Respondents who are Employed Full Time.

Division	Women presently affected by anti-nepotism rules (1)	Women with husbands in academia (2)	Women with husbands not in academia (3)	Combined married women	Single Women (4)	All men (5)
			Assistant Professors			
Natural and Biological Sciences	8,656 (8)	9,206 (17)	9,400 (20)	9,039 (45)	9,277 (56)	9,188 (36)
Social Sciences	9,271 (12)	9,065 (23)	8,977 (32)	9,060 (67)	9,334 (83)	9,336 (55)
Humanities	7,472 (9)	7,655 (21)	8,352 (32)	7,988 (62)	8,263 (80)	8,615 (37)
Education	9,250 (6)	8,143 (7)	8,954 (27)	8,856 (40)	9,131 (65)	10,007 (35)
			Associate Professors			
Natural and Biological Sciences	--- (2)	--- (2)	--- (2)	8,292 (6)	8,990 (24)	10,381 (21)
Social Sciences	10,893 (7)	9,200 (5)	10,179 (7)	10,184 (19)	10,006 (43)	10,712 (59)
Humanities	8,938 (4)	8,143 (7)	9,333 (9)	8,838 (20)	9,384 (43)	9,903 (36)
Education	10,050 (5)	10,750 (4)	9,883 (32)	9,988 (41)	10,244 (127)	10,888 (58)

From the figures in Table 7 we note that for both ranks and in all divisions men earn the highest or close to the highest salaries; and on most of the comparisions unmarried women the next highest. Married women in all three categories, generally earn less than unmarried women or men, except in the social sciences. But women who claim they are affected by anti-nepotism rules do not earn less than other married women. Thus, the findings pertaining to income

support the interpretation suggested by the data describing rank and tenure: objectively women who claim their careers have been hurt by anti-nepotism regulations have been treated no differently than other married women. But, married women in general have been subjected to discriminatory practices.[11]

So much for the differences in job situations among our five categories of respondents. What, if any differences, exist in the relative productivity among the five groups? We have found no important differences thus far between married women who claim that their careers have been hampered by anti-nepotism regulations, and other married women. But the data in Tables 1 through 8 suggest that married women as a whole, that is, including those who do not see themselves as victims of discriminatory practices,

Table 8. Mean Salary by Division Among those Employed Full Time

Division	Women presently affected by anti-nepotism rules (1)	Women with husbands in academia (2)	Women with husbands not in academia (3)	Combined married women	Single women (4)	All men (5)
Natural and Biological Sciences	8,343	8,599	9,159	8,700	9,337	9,788
Social Sciences	9,773	8,798	9,412	9,328	9,638	10,140
Humanities	7,259	7,290	8,093	7,547	8,781	8,725
Education	8,950	9,643	9,686	9,426	9,821	10,783
Combined Means	8,581	8,582	9,088	8,750	9,396	9,859

11. Table 8 describes the mean incomes by division among respondents holding different ranks. In general, the figures in Table 8 are consistent with those described above. Married women earn less than unmarried women and unmarried women earn less than men.

receive lower salaries, lower ranks and are less likely to be granted tenure. The question we now ask is: are married women who have received their Ph.D.'s at the same time as their unmarried colleagues and are working full time, less productive than unmarried women or men? The two basic measures of productivity that we used are number of professional articles published and number of books or monographs published. Table 9, shown below, describes the percentage of respondents in each category who have not published at all and the mean number of publications among those who have published. The means do not include persons who have failed to publish.[14]

Table 9. Mean Number of Articles and Books by Respondents Employed Full Time at Academic Institutions.*

Publications	Women presently affected by anti-nepotism rule (1)	Women with husbands in academia (2)	Women with husbands not in academia (3)	Single Women (4)	All men (5)
Per cent with no published articles	26.5	29.0	29.2	36.0	32.4
Mean number of articles published	7.1	5.0	4.8	4.3	6.5
Per cent with no published books	69.3	74.8	71.1	69.7	73.2
Mean number of books published	1.7	1.5	1.8	1.6	1.9

*We compared only persons employed at colleges and universities because presumably these respondents are under more pressure to publish than persons employed by the government or private industry. By keeping place of employment uniform we also assume that the extent of the pressure is distributed evenly among the five categories. Inspection of the mean number of publications (articles or books) by persons in other institutions confirmed our guess that those employed at colleges and universities would be higher.

14. We first compared each of these figures by division and when we found that the rank order and the size of the differences were relatively similar within each division, we decided to present only the combined figures.

Table 9 tells us three things: 1) the percentage not publishing (books or articles) is relatively constant among the five categories, 2) the differences in the mean number of books published are negligible; 3) the differences in the mean number of articles published are larger and the order is interesting. Married women who claim they are affected by anti-nepotism rules published more than respondents in any other group (although the difference between them and men is slight.) The fact that the women who claim they are victims of discrimination in employment practices are more productive than other women, may explain why they are willing to speak out. That is, we do not know whether the Category 2 respondents (women with husbands employed at academic institutions who do not complain of anti-nepotism regulations) are also the victims of discriminatory practices. We only know that unlike the women in Category 1, they do not claim they are affected by anti-nepotism regulations. The figures in Table 9 offer a plausable interpretation. Namely, that although the women in Category 2 work under the same conditions as those in Category 1, their levels of expectations or aspirations are not as high, and for reasons that are quite realistic. They are not as productive as the group against which they cannot help but compare themselves since they are the majority group, their male colleagues. But the women in Category 1 who work full time are as productive as their male colleagues. Yet they receive lower salaries, hold lower ranks,and are denied tenure, hence they complain.

9. Conclusions and Implications.

Anti-nepotism rules that were originally enacted in order to protect colleges and universities from the political pressures of having to hire incompetent people with influential connections have, in recent years, been used largely to prevent women who have husbands on the faculty from receiving considerations and rewards comparable to unmarried females and male colleagues with similar qualifications. Our data, which represent the responses of about sixty per cent of the women who have received their Ph.D.'s in the past half dozen years, report that about 15 per cent of the married women believe that their careers have been hurt by anti-nepotism regulations. These regulations appear not to be barriers to entry into the academic market but interferences that manifest themselves by imposing restrictions on conditions of employment, the liklihood of advancement, and the securing of permanent positions and salaries. In describing how anti-nepotism rules have affected their careers, women are most likely to mention restrictions on their mobility, having to change their areas of interest or specialization, having to accept lower professorial ranks, denial of tenure and lower salaries.

The major finding that emerges from this inquiry into the effects of anti-nepotism rules on the employment of women with Ph.D.'s is that the objective conditions of employment among women who claim their careers are interferred with because of anti-nepotism rules appear no different than those of other women whose husbands are, or are not employed at academic institutions. A comparison of the ranks, salaries, permanence of positions, types and places of employment between women who complain of anti-nepotism rules and women who do not, reveal that women in the former category are treated no worse than those in the latter. No different that is, with one crucial exception. Women

who complain about anti-nepotism rules produce significantly more than other women, married or unmarried, and as much as men.

Thus while the employment situation of the women who complain of anti-nepotism rules is in fact no worse than the situation of women who either are not at universities that have anti-nepotism regulations, or than women who are at universities that have such regulations but do not feel their effects, their productivity is greater. They are, therefore, less willing to accept the lower rewards and lesser recognition that the majority of married women who are employed at colleges and universities have come to accept as a basic feature of their employment. The basic problem, then, of unfair treatment of full time professionals who are also married women would not be solved by the removal of discriminatory legislation from the books. As we have observed in the area of race relations and other social problems, the elimination of discriminatory legislation and the passage of laws prescribing equality is but one step, although certainly a large and a crucial one, toward the attainment of complete equality.

Appendix A -- Questionnaire

PERSONAL BACKGROUND

1. From which university did you receive your Ph.D.? _____

   a. Field of specialization _____

   b. Date _____

2. Are you presently _____Single _____Married _____Widowed

   _____Separated _____Divorced

3. If you are presently or have been married, in what year were you married?_____

4. How old are you? _____years.

5. Do you have any children? _____No _____Yes

6. If yes, please indicate how many and their ages and sexes.

   Number_____

   _____Boys _____Ages

   _____Girls _____Ages

7. What is your wife's educational background: (Check the last appropriate category)

   _____Grade School Graduate

   _____High School Graduate

   _____College Graduate

   _____Advanced Degree, If checked here, please state degree, field of study, and year received

   _____

OCCUPATIONAL AND PROFESSIONAL HISTORY

8. Are you presently employed? _____Yes _____No

9. If yes, please describe:

   a. Type of employment: teaching, research, both, other (be as specific as possible)

   _____

   b. Place of employment: name of college or university, or research institute or government agency, etc.

   _____

   c. Full or part time: if part time, indicate number of hours per week

   _____

   d. Salary: indicate per academic year or per twelve-month basis_____

   e. Rank or position_____

   f. If employed at university do you have tenure?_____

   g. How long have you been employed at your current position?_____

10. If you are presently not employed, please tell us why_____

    _____

    Are you presently seeking employment?_____

11. Please list all the positions you have held since you received your Ph.D. Start with your first position and work toward your present position, but do not include it.

Type of Work (teaching, research, etc., if both no. of hours for each)	Name of Firm or Institution and Location	Title or Rank	Salary	Position Held from When to When
a.				
b.				
c.				
d.				
e.				

12. Are you a member of any community or fraternal organization?

_____Yes _____No

a. If yes, are you a member of any committees? _____Yes _____No

b. Have you been or are you now an officer of any organization?

_____No _____Yes, please specify office_____

13. Are you presently a member of any professional organization?

_____Yes _____No

a. If yes, please tell us:

the names of the organizations_____

_____

the names of committees you are a member of_____

_____

the names of offices you hold presently, or have held in the past.

_____

b. If no, please tell us if you have ever belonged to any professional organization and from when to when

_____

14. Do you subscribe to any professional journals? _____Yes _____No

a. If yes, how many_____

b. If no, have you in the past?_____

From when to when_____

15. Do you serve as a consultant to any organizations or institutions?

_____Yes _____No

a. If yes, please describe the type of organization and your work.

_____

_____

b. How much do you usually receive per day for your consulting services?

_____

c. About how many days in the past year have you acted as a consultant?

_____

d. Please estimate the average number of days you have acted as a consultant in previous years

_____

16. Please list articles that you have authored or co-authored that have appeared in professional journals. Start with your most recent publication.

Authors (If you have co-authors)	Name of Article	Name of Journal	Date of Publication

17. Have you had any books or monographs published?

Authors (If you have co-authors)	Title	Date of Publication

18. Since receiving your Ph.D. have you received any:

A. Research Grants _____Yes _____No

If yes, please indicate for each grant the sponsoring agency

_____

the amount of money received_____

the time period of the grant_____

your position in the project_____

B. Travel Grant, such as a Fullbright: _____Yes _____No

If yes, please indicate for each grant, the country you visited

_____

the amount of money received_____

the length of stay_____

your activities_____

C. Fellowships such as a Fellow at the Center For Advanced Study at Palo Alto

_____Yes _____No

If yes, please indicate for each fellowship the name or the sponsoring agency

_____

the amount of money received_____

the length of time_____

your activities_____

D. Election to Honorary Societies

_____Yes _____No

If yes, please indicate for each society the name of the society

_____

_____

the date elected_____

E. Appointment to Government or Private Foundation Study Committees

_____Yes _____No

If yes, please indicate for each appointment the name of the agency

_____

the length of the appointment_____

your honorarium_____

your activities_____

Title: PRELIMINARY STUDY OF PROFESSIONAL CONTRIBUTIONS AND PRODUCTIVITY OF WOMEN WITH DOCTORATES

Investigators: Rita James Simon
Shirley Merritt Clark

Institution: University of Illinois
Urbana, Illinois

Project Number: 5:8189 (former number S-049)

Duration: June 1, 1964 to May 31, 1965

BACKGROUND

Approximately 12 percent of the total number of Ph.D.'s in this country are women.[1] Society has made a huge investment in the education of these women. Our research is designed to find out how much of a return society receives from its investment and how much of the investment is lost, both to society and to the women who spent the time and effort obtaining the Ph.D. because of discriminatory personnel practices, such as enforcement of nepotism rules, reluctance to extend tenure or to assure permanent status, and employment at a lower professional rank and salary than is commensurate with training and competency. Losses to education and to society as a result of discriminatory hiring policies can and do manifest themselves by (1) a shortage of trained teachers, (2) a lack of qualified researchers and (3) a decrease in the motivation of women to obtain the Ph.D. In this era of increasing emphasis on the importance and necessity of a college education, and of trained persons with specialized skills, the failure of society to use all of its available resources to an optimal degree, may be a greater loss than is presently realized.

OBJECTIVES

This study was designed to measure the relative productivity of women Ph.D.'s by comparing the teaching and research contribution of recent Ph.D.'s in four categories.

(1) Married women with Ph.D.'s whose husbands are employed at universities that have nepotism rules.

(2) Married women with Ph.D.'s whose husbands are not members of university faculties or whose husbands are employed by universities that do not have nepotism rules.

(3) Unmarried women with Ph.D.'s.

(4) Men with Ph.D.'s.

PROCEDURE

Our data collecting procedure consisted of the following steps.

1. From the listings availablein the Index to American Doctoral Dissertations we determined the universe of women holding the Ph.D. for the past six years in four academic divisions: physical and biological sciences, social sciences, humanities and education.
2. Once we knew the size of the female universe we selected every nth name from among the male listings. We drew a sample of male Ph.D.'s which was one third the size of the female list. We maintained the same proportions by the major academic divisions.
3. We obtained the current addresses of our potential respondents from alumni offices throughout the country. If the Alumni Office was unable to supply us with a current address, we wrote to the chairman of the department from which the respondent received his Ph.D.
4. Letters describing the purpose of the study along with the questionnaire were mailed to the men and women on our list. A follow-up letter was also sent.

Of the 5370 women who received their Ph.D.'s in the years and divisions cited above, the alumni offices and department heads were able to supply us with the current addresses of 4998 names or 93 per cent of the total. Among the men, out of a sample of 1787, we were able to obtain the current addresses of 1700 or about 95 percent of the sample. We received about a 60 percent return from both males and females.

RESULTS AND CONCLUSIONS

1. About 15 per cent of the married women believe that their careers have been hurt by anti-nepotism regulations.
2. Among those women who claim they are affected by anti-nepotism rules, 84 per cent report they are presently employed and of those employed, 60 percent are employed full time. These figures (84 and 60) are not significantly lower than those reported by other married women.
3. Anti-nepotism regulations affect the respondents' careers in the following ways:

a. Women claim they can work at the same university, in some instances in the same department as their husbands, but under "special" circumstances. These special circumstances involve such things as: temporary employment with no possibility of being considered for tenure; part time employment; semester by semester hiring on an emergency basis; lower salary than colleagues with comparable rank and experience; no voting privileges; must secure salary from research grants; no professorial rank; change of field or speciality.

b. Women claim they are excluded from work at the same university as their husbands, therefore: They find employment at another college or university in the same community or area; they are unemployed -- but seeking work; they are unemployed -- but at the present time not particularly interested in finding a position.

c. Women claim that both their mobility and their husband's mobility is severely limited. They cannot consider employment at certain universities that have good departments because of anti-nepotism rules.

d. Women claim that anti-nepotism regulations exist at the universities in which they are employed, but that they are not directly affected by them because: they had tenure before marriage; they have always been employed as a research associate and receive their salaries from research grants; they have not sought employment at the same university as their husbands because they have a satisfactory position elsewhere; they have not sought employment at the same university as their husbands because they do not feel they would qualify.

4. Comparing types of employment, we found that teaching claims the greatest proportions of respondents in all categories. Unmarried women and men, however, are less likely to hold exclusively research positions.
5. Comparing places of employment, we found that public universities appear no less willing to hire married women whose husbands are on the faculty than private colleges or universities.
6. When professorial ranks were compared, we found that a) unmarried women are just as likely to hold associate and full professorships as men; b) just as likely to have tenure as men; but c) unmarried women are less likely to be represented in the tenure ranks.
7. Comparing mean incomes by sex and marital status we found that in each of the four major divisions (controlling or rank) men earned more than women; and unmarried women earned more than married women (except for a slight reversal in the social sciences). Women who claim they are affected by anti-nepotism rules do not earn less than other married women.
8. On the crucial dimension of productivity, we found that the mean number of articles published by women who claim they are affected by anti-nepotism rules is higher than the mean number for other women (married or unmarried) and for men.

While the employment situation of the women who complain of anti-nepotism rules is in fact no worse than the situation of women who either are not at universities that have anti-nepotism regulations, or than women who are at universities that have such regulations but do not feel their effects, their productivity is greater. They are, therefore, less willing to accept the lower rewards and lesser recognition that the majority of married women who are employed at colleges and universities have come to accept as a basic feature of their employment. The basic problem, then, of unfair treatment of full-time

professionals who are also married women would not be solved by the removal of discriminatory legislation from the books. As we have observed in the area of race relations and other social problems, the elimination of discriminatory legislation and the passage of laws prescribing equality is but one step, although certainly a large and a crucial one, toward the attainment of complete equality.

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